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Charging accumulators, e.g. for power tools - coupling measured
instantaneous sec. cell voltage with temp. values by fuzzy logic

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Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Main IPC	Week
4200693	C1	19930506	DE 4200693	A	19920114	H01M-010/48	199318 B
9314548	A1	19930722	WO 92DE1060	A	19921218	H02J-007/04	199330
621990	A1	19941102	WO 92DE1060	A	19921218	H02J-007/04	199442
			EP 93901593	A	19921218		
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Abstract (Basic): DE 4200693 C

The method involves the instantaneous voltage of the accumulators as well as its temp. and/or the derivatives of voltage and temp. w.r.t. time measured in order to adjust the charging current. The measurement values are logically linked with each other according to the method of the fuzzy logic.

The voltage and temp., as well as their derivatives w.r.t. time, are determined. The cases of 'high voltage', 'low voltage', 'rising voltage' or falling voltage' are discriminated and the charging operation is controlled accordingly. The cases 'high temp. of the accumulator', 'low temp. of the accumulator', 'rising and falling temps. of the accumulator' are discriminated.

USE/ADVANTAGE - For NiCd or NiH rechargeable cells. Working life of accumulator cells is extended.

Dwg.1/4

File Terms: CHARGE; ACCUMULATOR; POWER; TOOL; COUPLE; MEASURE; INSTANT; SEC; CELL; VOLTAGE; TEMPERATURE; VALUE; FUZZ; LOGIC

Derwent Class: T01; T06; U24; X16; X25

International Patent Class (Main): H01M-010/44; H01M-010/48; H02J-007/04

International Patent Class (Additional): H02J-007/00; H02J-007/10

File Segment: EPI